

FLIGHT

The
AIRCRAFT
ENGINEER
&
AIRSHIPS

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:—

June 23	Grosvenor Challenge Cup, Lympne
June 25-30	International Air Congress, London
June 30	R.A.F. Aerial Pageant, Hendon
July 13-14	Air Race for King's Cup
July 16	Unveiling of R.A.F. Memorial by H.R.H. The Prince of Wales
July 20	Gothenburg Exhibition
Aug. 1	Entries close from British Competitors for Schneider Cup
Aug. 3-14	Rhön Gliding Competition
Aug. 6	Aerial Derby
Aug. 6-27	French Gliding Competition, near Oherbourg
Aug. 8-12	F.I.A. Conference, Gothenburg.
Sept.	Light 'Plane and Glider Competitions
Sept. 23	Gordon Bennett Balloon Race, Belgium
Sept. 28	Schneider Cup Seaplane Race at Cowes
Oct. 14	Beaumont Cup Race at Istres, France
Dec. 1	Entries close for French Aero Engine Competition

1924

Mar. 1 French Aero Engine Competition.

EDITORIAL COMMENT.



“Consider the present arrangements for air mails and the possibilities for improving and extending them, and for the co-ordination of the work of the General Post Office and the Air Ministry in connection therewith.” These are the terms of reference of the new Committee

appointed by the P.M.G. and the Secretary of State for Air, as recorded on another page of this issue of

Improving the Air Mails

FLIGHT. We welcome the appointment of this Committee, since, as we have repeatedly urged in these columns, by making extensive use of the facilities which the air has to offer, not only will the public be benefited in the matter of rapid conveyance of mails, but aviation will receive a measure of assistance by this form of propaganda which it badly needs, and in a form, moreover, which is the least objectionable of subsidies. We have repeatedly advocated that all first class mails should be sent by air as a matter of course, and that if this were done it should require but a very small surcharge—if any at all—to be passed on to the public.

It is, perhaps, too much to hope that the result of the deliberations of the new Committee will be quite as emphatic and far reaching, but, nevertheless, close co-operation between the Air Ministry and the G.P.O. is badly needed, and if once these two departments are brought into more intimate touch with one another there is little doubt that the working of existing air mail lines will be improved and the lines themselves extended farther afield. Col. Moore-Brabazon, who is chairman of the Committee, needs no introduction to readers of FLIGHT, being the holder of British pilot's certificate No. 1, and, therefore, of necessity one of the pioneers of British aviation, in the future of which he so firmly believes. General Sir Sefton Brancker, as Director of Civil Aviation, has everywhere made himself liked and respected in that post. His unflagging energy and very great enthusiasm are sufficient guarantee that, from the Air Ministry's side, all possible avenues will be explored. General Williamson is Director of Mails at the G.P.O., and has represented that institution at the Air Conferences at the Guildhall, where, although his

duties were to defend the P.M.G. in office at the time against any critics who might consider that the G.P.O. had not done all it might have done to foster air mails, he showed a very thorough grasp of the air mail problems and a preparedness to examine any suggestion for the greater use of the air.

Just by way of a suggestion, might we remind the new Committee that a number of other countries already have their special air mail stamps, and that if this country adopted special stamps for air mails very useful additional propaganda would result, and in all probability a much more extensive use be made of the air mail than is now the case, as each letter would be a reminder of the existence of the airway, and so gradually link it up with everyday life as a natural channel for correspondence?

The R.A.F. Pageant

In a fortnight's time the Royal Air Force Pageant will again take place at the London Aerodrome, Hendon. This year's Pageant will be the fourth of its kind, and there is not the slightest doubt that, given reasonably good weather conditions, it will be the most interesting. Last year, it will be remembered, the Pageant was well-nigh spoiled by the rain, which came down in torrents, although all the items on the programme were carried out with clockwork regularity. The R.A.F. Pageant has already come to be regarded as one of—if not the principal among aviation events of the year, and it is no exaggeration to say that nowhere can better or more varied flying be seen. For those who like to watch stunt flying Flight-Lieut. Longton will again oblige, while those interested in war flying will see fighting in the air, formation flying, etc., giving those who appreciate good airmanship an opportunity to see at work the finest Air Force in the world. From the technical aspect there will be much of interest, as a number of machines which have hitherto been treated as "secret" will be "released" for flying in public.

It should be superfluous for us to advise all who can beg, borrow, steal or hire any form of conveyance to transport them to Hendon should do so on June 30. They will not regret it.

The Gothenburg Competitions

Apart from the exhibition of machines, engines, etc., at the Gothenburg International Aero Exhibition from July 20 to August 12, there will be various competitions for commercial machines. Full par-

Sir Samuel Hoare to Visit Gothenburg

ACCORDING to a report from Gothenburg, the Secretary of State for Air, Sir Samuel Hoare, has intimated his intention of visiting the Gothenburg Aero Exhibition, which opens on July 20. It is understood that Sir Samuel intends to leave as soon as Parliament rises.

Improving the Air Mails

It is announced that the Postmaster-General and the Secretary of State for Air have appointed a Committee, with the following terms of reference: "To consider the present arrangements for air mails and the possibilities for improving and extending them, and for the co-ordination of the work of the General Post Office and the Air Ministry in connection therewith." Following are the members of the Committee:—Lieut.-Col. J. J. Moore-Brabazon, M.C., M.P., Chairman; Major-General Sir W. Sefton Brancker, K.C.B., A.F.C., Director of Civil Aviation; Brig.-General F. H. Williamson, C.B., C.B.E., Director of Mails; Secretary, L. Simon.

The Duke of Sutherland on the R.A.F.

REPLYING to the toast of the R.A.F. at a dinner of the Highland Society of London at the Cecil on June 7, His

particulars of these competitions are published on another page of this issue of FLIGHT, from which it will be seen that quite substantial prizes are being offered. While the main value of being represented in the Swedish competitions lies in the publicity and propaganda, the fact that prizes are available will help by reducing the actual cost of sending machines. It is to be hoped that British firms, apart from those actually exhibiting machines and engines, will realise the importance of being represented in the flying competitions, and that the Air Ministry will help by giving permission for some of the machines which have hitherto been classed as "secret" to be flown at Gothenburg. It is well that we should be represented inside the exhibition buildings, and the grant by the Treasury should materially assist in making the British exhibit truly representative, but it is of no less importance that British machines should be flying over the city of Gothenburg and take part in the various competitions. Nothing is so convincing as a flying demonstration of a machine's capabilities, and as the cost of sending a machine over by air should not be prohibitive, we trust that many British machines of modern type may help to uphold British prestige outside the exhibition, while others do the same on the stands inside.

The French Glider and Light 'Plane Competitions

Although the closing date for entries for the forthcoming glider and light 'plane competitions at Vauville, near Cherbourg, is not until July 1, no less than 35 machines have already been entered, out of which number approximately one-half are gliders and one-half light 'planes. Even assuming that many of the machines entered will not face the starter, the response is one upon which the organisers are to be congratulated. We wish we could hope for a similar entries list for the Sutherland, *Daily Mail*, and Abdulla prizes in September. That is scarcely to be expected, however, and probably the number will not reach one-half of the French list. For one thing, gliding seems to have lost its interest in this country, although the possibilities of the light 'plane are greatly exercising the minds of many. This is a pity, as it is very certain we have not learnt all that is possible from gliders yet, and once an engine is introduced, of however small power, the problem becomes greatly complicated. Nevertheless, we congratulate the French, and hope that Britain may not remain entirely unrepresented at Vauville.

Grace said that during the last few months he had moved about a good deal amongst the air stations in different parts of the country, and had found a great pride growing up amongst the officers and men of the new young force that had come into being. "The youngest child in the family of the Services," His Grace said, "is not of old family or ancient lineage with the great traditions of past ages to support it or help its career in the world. On the other hand, it is something new, vital, its possibilities incalculable, full of high purpose to gain for itself that lustre which Trafalgar and Waterloo have shed over the other Services." Continuing, the Duke of Sutherland said: "Let those who have suggested the breaking up and dividing of this fine force ponder deeply before they destroy something that may well be the greatest asset our Empire has ever had, and upon our very existence and life may depend in the long uncertain future that is before. After referring to the increase of the R.A.F. which has been foreshadowed, His Grace continued: "We know the heroic work done in the War by the airmen, and what they achieved in spite of our aerial unpreparedness at the beginning. Let this be a guarantee to us for what the Air Force may achieve in the future if allowed to develop and grow-up, as they themselves desire, along present lines."

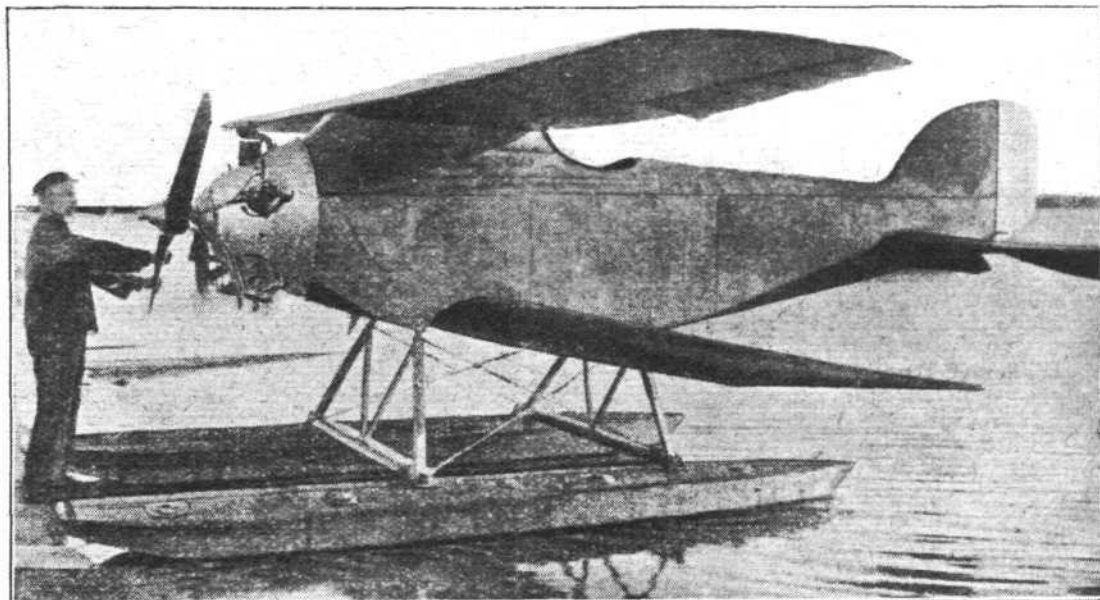
THE CASPAR SPORT SEAPLANE

60 H.P. Siemens Engine

AMONG the modern German aircraft passed by the Commission of Guarantees as conforming to the regulations restricting horse-power, etc., of commercial machines is a very interesting little two-seater seaplane designed by Herr Heinkel and built by the Caspar Werke of Trawemünde. Compactness and ease of erecting and dismantling are the pre-

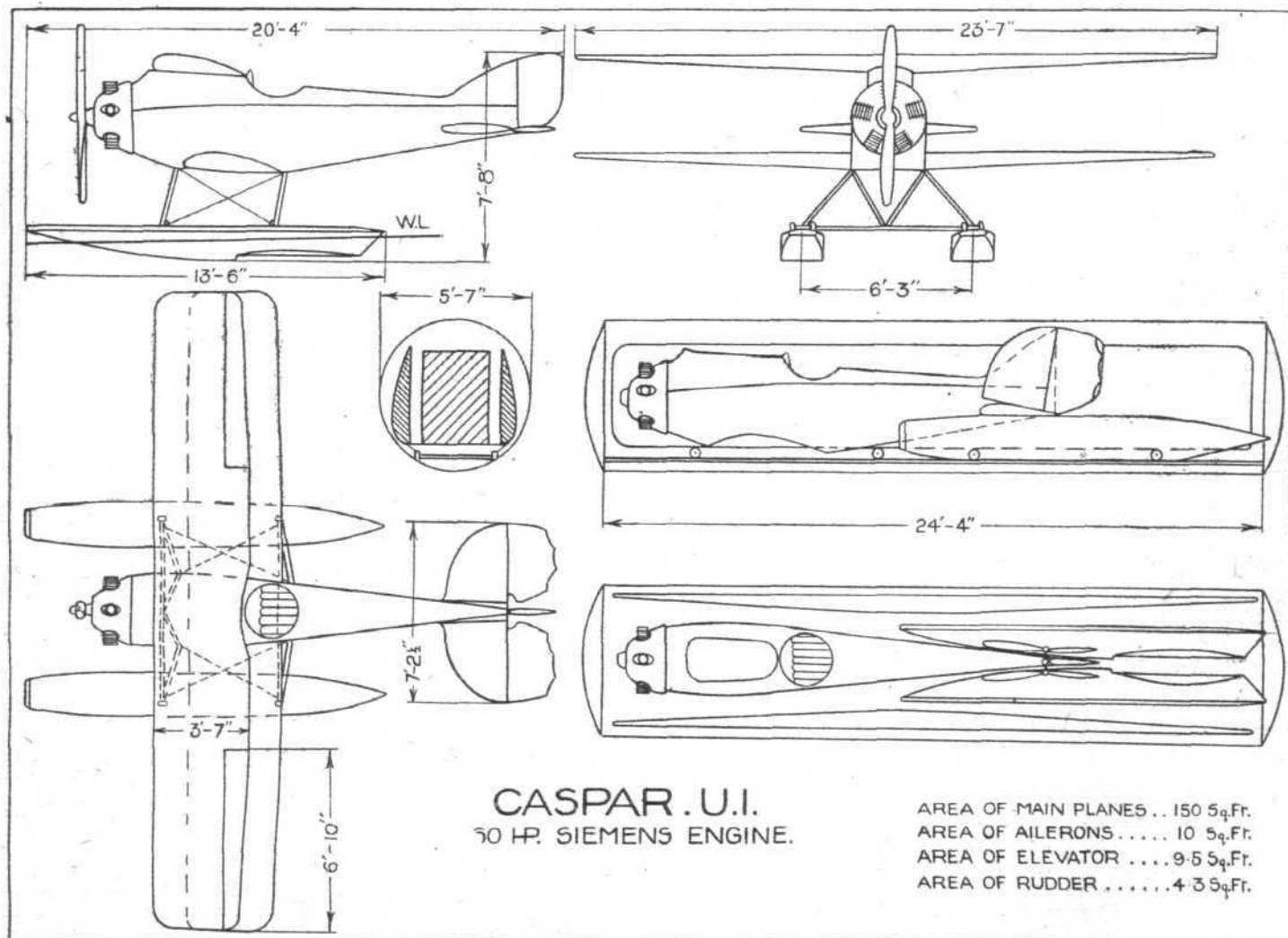
dominant features aimed at, and it is rumoured that the machine may be used from a large submarine. In fact, the United States Government has purchased one of these machines with, it is stated, the intention of testing the suitability of the Caspar U1 for this purpose. This fact may explain the reason for so designing the machine that it will, as indicated in the accompanying diagrams, pack into a cylindrical case measuring 24 ft. 4 ins. in length by 5 ft. 7 ins. diameter.

The Caspar seaplane: three-quarter front view.



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THE CASPAR SEAPLANE, TYPE UI : General arrangement drawings and diagrams, showing how machine packs into a cylindrical container.

and in order to facilitate removing and erecting the wings these were made cantilever surfaces. In the case of the bottom plane this arrangement is probably quite satisfactory, but we confess we have certain misgivings concerning the top plane.

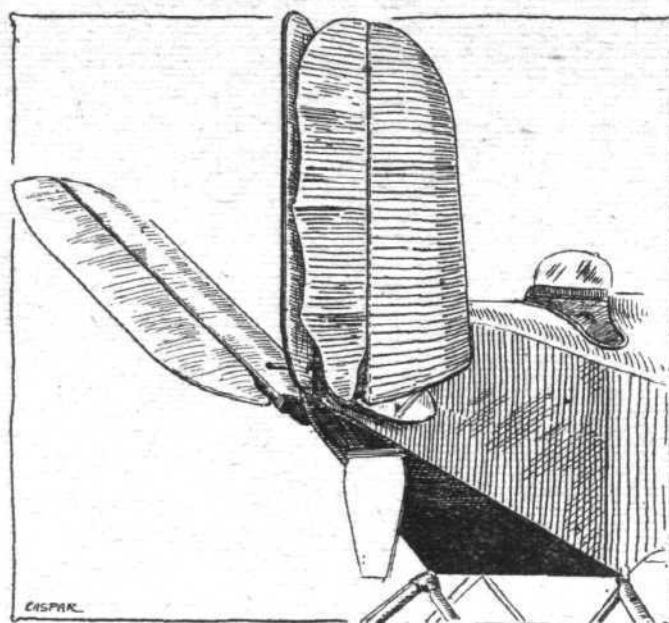
From the front elevation of the machine it will be seen that the width of the excrescence on the fuselage, which carries the top plane, is relatively narrow—about 18 ins., and the soundness of attaching to such a narrow structure the upper, and more heavily stressed, wing of a biplane may be questioned. It is not so much a matter of pure bending stresses, although these will probably be serious enough, as of torsion and rocking of the wing. To make matters worse, the ailerons are fitted to the top plane, so that the loads tending to twist and rock the wing may be assumed to be increased. By using an excess of material it is, of course, possible to provide the necessary strength, but at the expense of a good deal of weight. We should have thought that it would have been preferable to use a pair of lift struts on each side, but probably this would have meant a departure from the ideal which the designer had set himself, and certainly it would have meant extra fastenings to undo when dismantling the machine. It may be that the present arrangement, entailing a somewhat greater weight, was chosen deliberately in order to retain the extraordinary simplicity of the wing attachments.

Facility of erecting and dismantling has been carried to such perfection that no tool of any sort is required for these operations. The wings are locked in place by the movement of a single lever projecting from the fuselage, the movement securing both wings at once. For removing the wings the lever is moved in the opposite direction, when the top plane can be lifted off and the lower plane withdrawn by sliding it out of its notch in the bottom of the fuselage. The aileron controls must, of course, be broken and joined up again, but the fittings used are such as to require no tools.

The two floats, which are of the single-step type with flat bottom ahead of the step and V-bottom aft of it, are of sufficient length to avoid the use of a tail float. They are mounted on steel tube struts, and the attachments are such as to avoid the use of tools. The fittings on the floats and fuselage are in the form of steel hooks pointing away from one another. When, therefore, the diagonal cable on each side is slackened off, by means of a quick-release, the strut ends can slide out of the hooks and float and struts removed from

halves of the tail plane are hinged on their upper surface, near the sides of the fuselage, and by removing a pin they can be folded up against the fin.

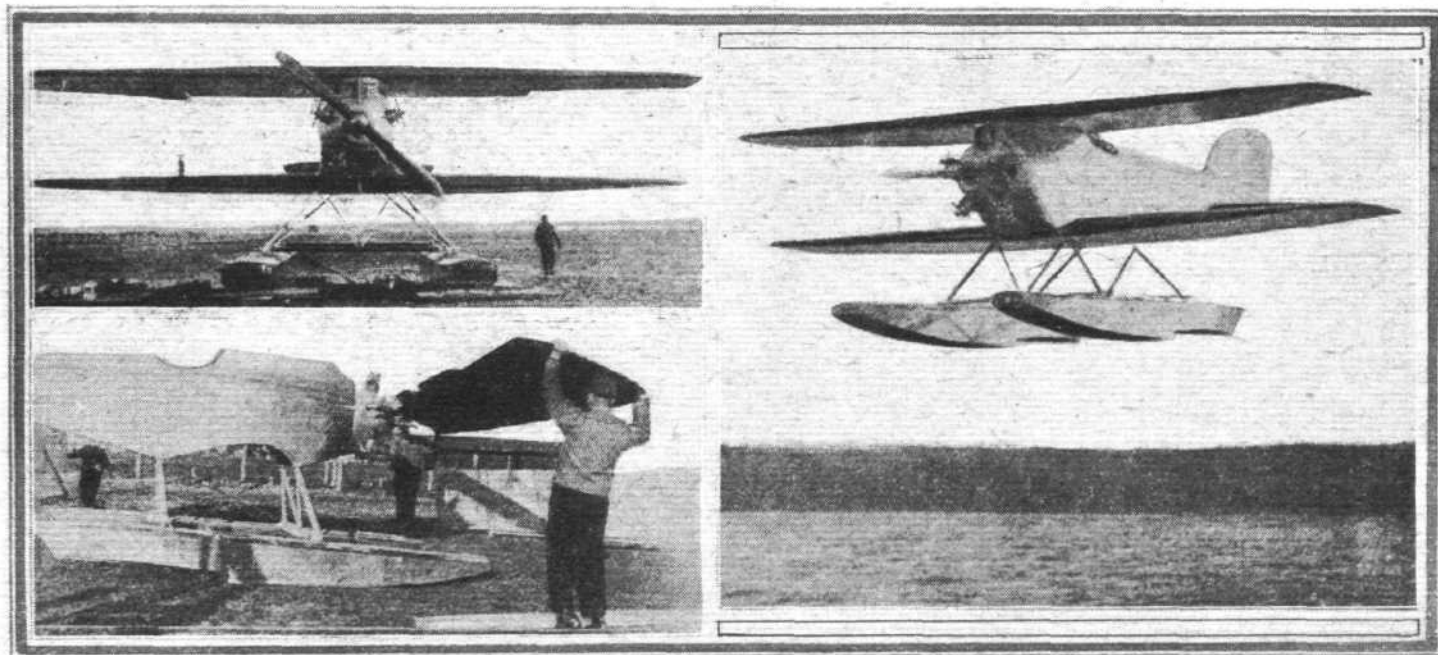
A Siemens five-cylinder radial air-cooled engine is mounted



THE CASPAR SEAPLANE : Sketch showing how tail is folded.

in the nose, and neatly cowled-in, with the cylinder heads projecting. The propeller is secured by a sort of bayonet joint, a 90° turn unlocking the propeller boss from its hub. Again no tool is required. Petrol sufficient for a two-hours' flight at full throttle is carried, giving a range of approximately 180 miles.

It is stated that a crew of four men can erect the machine in 1 min. 5 secs., and dismantle it in 1 min.



THE CASPAR SEAPLANE : On the right, the machine in flight. On the left, front view; and, below, dismantling the wings.

the fuselage. Laterally the float struts are so triangulated as to form a letter M, with the float cross-tubes joining the lower ends of the limbs.

The fuselage is built of wood, and covered with three-ply. The excrescence carrying the top plane contains the petrol tank, so that direct gravity feed to the carburettor can be employed, thus simplifying the petrol system. The pilot's cockpit is immediately aft of the top plane, and as the wings are fairly heavily staggered he obtains an excellent view.

The vertical fin is built integral with the fuselage, and the rudder, tail plane, and elevators are built up of steel tubing and fabric covered. In order to save stowage space, the two

Following are the main characteristics of the Caspar 'U1': Length, o.a., 6.2 ms. (20 ft. 4 ins.); span, 7.2 ms. (23 ft. 7 ins.); chord, 1.1 m. (3 ft. 7 ins.); wing area, 14 sq. ms. (150 sq. ft.); length of floats, 4.1 ms. (13 ft. 6 ins.); volume of floats, 430 litres (approximately 15 cubic ft.); weight of floats, 26 kgs. (57 lbs.); spacing of floats, 1.9 m. (6 ft. 3 ins.) over centre lines. Weight of machine empty, 360 kgs. (790 lbs.). Useful load, 150 kgs. (330 lbs.). Total loaded weight, 510 kgs. (1,120 lbs.). Wing loading, 7.46 lbs./sq. ft. Power loading, 18.7 lbs./h.p. Maximum speed, 145 kms. (90 m.p.h.). Cruising speed, 75 m.p.h. Landing speed, 75 kms. (47 miles) per hour. Climb to 1,000 ms. (3,280 ft.) in 7 mins.

THE INTERNATIONAL AIR CONGRESS

The Prince of Wales to Open Air Congress

H.R.H. THE PRINCE OF WALES has graciously consented to open the International Air Congress at 10.45 a.m. on Monday, June 25, and the Duke of Sutherland, Under-Secretary of State for Air, will deliver the inaugural address. Sir Samuel Hoare, Secretary of State for Air, will preside at the last session of the Conference on Saturday, June 30, and will deliver the closing address.

Arrangements have been made for the fourth meeting of the International Commission on Air Navigation to take place in London during the same week, and the delegates to the Commission are to be entertained at Lancaster House by the British Government on Tuesday evening, June 26.

THE following is a programme of visits to places of aeronautical interest, one (or one series) of which Members may select for each particular day:—

Tuesday, June 26.

(a) Royal Aircraft Establishment, Farnborough (Government Experimental Establishment). (b) No. 1 Group Headquarters, Royal Air Force, Kenley. (c) S. Smith and Sons (M.A.), Ltd., Cricklewood (Instruments); Triplex Safety Glass Company, Ltd., Willesden (unbreakable glass); The de Havilland Aircraft Company, Ltd., Edgware (aeroplane factory); Titanine, Ltd., Hendon (dope); Handley Page, Ltd., Cricklewood (aeroplane factory). (d) The Robinhood Engineering Works, Ltd., Kingston (sparking plugs). (e) Royal Air Force Medical Research Laboratory, Hampstead.

Thursday, June 28.

(f) National Physical Laboratory, Teddington (Government Research Laboratory). (g) Waddon Aerodrome, Croydon (Government Civil Aerodrome). (h) No. 1 School of Technical Training (Boys), Royal Air Force, Halton. (i) Marconi Wireless Telegraphy Company, Ltd., Chelmsford. (l) Cellon, Ltd., Richmond (dope). (m) D. Napier and Sons, Ltd.,

Acton (engine factory). (n) Fairey Aviation Company, Ltd., Hayes (seaplane factory). (o) Vickers, Ltd., Weybridge (aeroplane and seaplane factory). (p) Royal Air Force Central Hospital, Finchley. (s) Henry Hughes and Sons, Ltd., Barking (instruments).

Details of the charge to be made in connection with each visit to cover the cost of travelling, luncheons, etc., will be announced later.

The above list of organised visits has necessarily been limited to places within easy access from London. Members wishing to visit the works of firms outside this area should communicate direct with the firms concerned. The following firms have kindly offered to show Members over their works on request:—

The Bristol Aeroplane Company, Ltd., Filton, Bristol; Rolls-Royce, Ltd., Nightingale Road, Derby; Armstrong-Siddeley Motors, Ltd., Parkside, Coventry; Aircraft Disposal Company, Ltd., Aintree, Liverpool, and Castle Bromwich, Birmingham; Accles and Pollock, Ltd., Oldbury, Birmingham; Short Brothers, Ltd., Seaplane Works, Rochester; Thos. Smith's Stamping Works, Ltd., Ribble Road, Coventry; Blackburn Aeroplane and Motor Company, Ltd., Olympia, Leeds; Effingham Steel Works and Rolling Mills Company, Ltd., P.O. Box 82, Sheffield; McGruer Hollow Spar Company, Ltd., Beach Street, Gosport; The Moss Gear Company, Ltd., Crown Works, Thomas Street, Aston, Birmingham; Westland Aircraft Works, Yeovil, Somerset; William Jessop and Sons, Ltd., Brightside Works, Sheffield; Bruntions, Ltd., Wire Mills, Musselburgh, Scotland; Albion Waterproofing Works, Pendleton, Manchester; Rubery Owen and Co., Ltd., Darlaston, Staffs; H. M. Hobson, Ltd., Wolverhampton; The British Thomson-Houston Company, Ltd., Lower Ford Street, Coventry; Gloucestershire Aircraft Company, Ltd., Sunningend Works, Cheltenham; The English Electric Company, Ltd., Williams Works, Rugby and Staffordshire; Midland Motor Cylinder Company, Ltd., Dartmouth Road Foundries, Smethwick, Staffs; and Thos. Firth and Sons, Ltd., Norfolk Works, Sheffield.

ROYAL AIR FORCE AERIAL PAGEANT

THE fourth Royal Air Force Aerial Pageant, which takes place, by arrangement with the Grahame-White Company, at the London Aerodrome, Hendon, on Saturday, June 30, will present several novel and interesting features demonstrating the growth of air power and the use of aircraft in modern warfare.

The outstanding incident will be a thrilling rescue of a beleaguered garrison by air. While the details have been varied, this event is based on an actual occurrence which took place last year in Iraq. On that occasion hostile troops were threatening the town of Sulimanie in Northern Kurdistan, and it became necessary to evacuate this centre temporarily. An order was given for about thirty British aircraft to concentrate at Sulimanie, and by the early hours of the following morning these machines had arrived and a large number of military and civil personnel (including several women and children) were transported by air to a point 70 miles distant within a period of a few hours, a movement which would have been impossible, under the conditions prevailing, except by the use of aircraft.

At the Pageant the incident is centred round the holding of an important railway bridge which is protected by a small military post. Hostile troops attack strongly, and a wireless message is, therefore, sent to R.A.F. headquarters that the post cannot hope to hold out more than a few hours longer. It is, therefore, determined to evacuate the garrison of the post and destroy the bridge, and three Vickers-Vernon troop-carrying aeroplanes, a type which is in use in Iraq, escorted by five single-seater fighters, are despatched to carry out this plan. The former land near the bridge, and whilst a demolition party place the explosive charges for the destruction of the bridge the fighting aircraft attack the enemy with machine gun fire and successfully cover the evacuation of the post.

The charges are fired, the bridge is destroyed, and the demolition party and the garrison emplane in the troop-carriers, which return with their escort to their base.

Short's to Market Gnosspelius "Gull"

WE learn from Short Brothers that arrangements have now been made between that firm and Major Gnosspelius for the marketing of the Gnosspelius "Gull" light 'plane, with 700 c.c. Blackburne engine, and the firm is now open to receive

orders for delivery in time for the September competitions. Delivery of complete machines can be given in nine weeks from date of order, so that intending purchasers should lose no time in placing their orders. The "Gull" was fully described and illustrated in FLIGHT of May 31, 1923.

Another feature of this year's Pageant will be a parade of many of the latest types of war aircraft, including troop-carriers, bombers, fighting machines, naval fleet spotters army reconnaissance aeroplanes, and all-metal aircraft. Most of these machines have been regarded as "secret," and will be on view to the public for the first time. They will emphasise in no mean fashion the development which has taken place in aeronautics since the end of the War. Striking contrasts, too, will be presented, ranging from the tiny "Wren," weighing only 210 lbs. and with a motor-cycle engine of 3½ h.p., to the huge Aldershot bomber, weighing several tons when fully loaded and fitted with the 1,000 h.p. Napier Cub engine, the most powerful machine of its kind in the world, and the only one of its type in existence.

The ever popular feature of acrobatic or crazy flying, by Flight-Lieut. W. H. Longton, D.F.C., A.F.C., will again figure in the programme, and several new variations of this form of flying, in which apparently all the laws of aviation are successfully defied, are being introduced. An "Avro" will be used, and its "antics" will, it is believed, provide as much amusement as well as admiration as it did last year.

In addition, many other flying events of outstanding merit and several air races for challenge cups, presented by H.R.H. Group-Captain the Duke of York and others, will be presented. A special traffic scheme has been prepared to cope with approximately 100,000 people, and adequate arrangements have been made to enable spectators to see the Pageant in comfort. By the kindness of the Hendon Urban District Council the use of Sunny Fields, which lie on the high ground overlooking the aerodrome, has been granted to the Pageant Committee, and will be open to the public on payment, as well as the regular enclosures inside the aerodrome.

Tickets can now be purchased from the leading agencies and libraries. Boxes for six cost £4, £5, and £7, and tickets are available at 5s. and 10s. Tickets for the 2s. enclosures are obtainable only at the aerodrome on the day of the Pageant.

THE GOTHENBURG INTERNATIONAL AERO SHOW

List of Exhibitors

ACCORDING to the American Aeronautical Chamber of Commerce, the following companies have announced that they will be showing at the International Aero Exhibition at Gothenburg from July 20 to August 12:—

Great Britain.—Vickers, Ltd. (flying machines), Bristol Aeroplane Company, Ltd., and Armstrong Whitworth Aircraft, Ltd. (both flying machines and motors), and Rolls-Royce, Ltd. (motors).

France.—Sous-Secretariat d'Etat de l'Aéronautique (statistics, etc.), Aeroplanes Caudron (flying machines), Henry Potez (flying machines), Société Nieuport-Astra (flying machines and models), Société Louis Bréguet (flying machines and models), Pierre Levasseur (propellers), Etablissements Lioré et Oliver (flying machine), Société Radio-Électrique (radio materials), Aera (instruments), Paulin-Ratier (propellers), Hanriot (flying machines), and Hispano-Suiza (motors).

Italy.—Gianni Caproni (flying machine), Macchi (flying machine), Savoia (flying machine), and Gabardini (flying machine).

Czecho-Slovakia.—Army Aircraft Factory (flying machines).

Germany.—Junkers Flugzeugwerk A.G. (flying machines, motors, models) Dornier-Metallbauten G.m.b.h. (flying machines), Albert Wigand (instruments), Albatros G.m.b.h. (flying machine), Udet (flying machine), Bauman and Lederer (flying materials), Bahnbedarf (flying materials), Baumer Aero (flying machine), Stahlwerk Mark (flying machines and motors), Steffen and Heyman (motors and flying materials), and Telefunken (radio materials).

Sweden.—Swedish Army and Navy (flying machines, materials), Swedish Aero A.B. (flying machines), A.B.A. Wiklunds Maskin and Velocipedfabrik (motors), Gas Accumulator (wind direction indicator and, possibly, air lighthouse), Transit Kompaniet (flying materials), Swedish Wireless Telegraphy A.B. (radio materials). Other reported exhibitors are: Accumulator A.B. Junger, See Fabriks A.B., Swedish Ball Bearing Company, A.B., Mack Meters, Fagersta Bruks A.B., George Hjort and Co., Sanviker Iron Works, and others.

The above-announced exhibits represent 34 types of flying machines and 16 types of aviation engines. It is expected that there will be no less than 50 different types represented when the exposition opens July 20."

The International Flying Competitions

In addition to the Aero Exhibition at Gothenburg, and partly concurrently with it, a series of flying competitions will be held, the Gothenburg aerodrome being situated fairly close to the exhibition grounds, and possessing facilities for seaplanes as well as land machines. These flying competitions will be governed by the rules laid down by the F.A.I., and the regulations, of which the following notes are a summary, have been approved by the Sports Committee of the Royal Swedish Aero Club. Notification of entries must be sent through the Aero Clubs of the countries represented (the Royal Aero Club in the case of Great Britain), and must reach the Royal Swedish Aero Club before July 5, 1923.

Premium Flying

In order to encourage flights to Gothenburg the Competition Committee has set aside a sum of 15,000 kronor for premiums to machines flying to the Gothenburg aerodrome. The premium payable is 1 Swedish kronor for each kilometre, measured in a straight line from the starting point to the Gothenburg aerodrome. (The distance from Croydon to Gothenburg is approximately 1,050 kilometres, so that British machines would receive 1,050 kronor, approximately £60 at the present rate of exchange.) The premium will only be paid for distances flown on August 3 and 4, and a minimum distance of 200 kilometres must have been flown on the second day. Machines must arrive at the Gothenburg aerodrome on August 4, between 4 p.m. and 8 p.m. The entrance fee is 50 kronor for machines not entered in the other competitions, and will be refunded when the machine arrives at Gothenburg. For machines entered for the other competitions there is no special entrance fee for the premium flying.

The Competitions

Apart from the premium flying from countries abroad to Gothenburg, a series of competitions will be held from August 4 to 12, for which a number of prizes have been set aside.

The Arrival Competition

The Arrival Competition is open to all aircraft which are not Government property. It will take place over the route Rotterdam-Gothenburg, with compulsory landings and a stay of one hour at each of the following places: For land machines the halts are at Bremen and Copenhagen; for seaplanes at Norderney and Copenhagen. Amphibians may use either. Competing aircraft must have arrived at the Waalhaven aerodrome, Rotterdam, not later than 9 a.m. on August 3. On August 4 competitors will start from Rotterdam at any time they choose, notice being given one half-hour before the start. To qualify for a prize the competitor must arrive at the Torslanda aerodrome, Gothenburg, between 4 p.m. and 8 p.m.

The award of prizes will be determined according to a system of awards of marks. After completion of the flight, the speed of each competitor (in kilometres per hour) will be calculated for each of the above-mentioned stages. The greatest of these average speeds will be multiplied by the whole of the time (in hours) occupied from the giving of the order to start from Rotterdam to the finish at Gothenburg, less the two hours spent at the compulsory halts. From the resultant product will be deducted the measured distances flown (in kms.). The remainder will be counted as negative marks, or "faults." The measured distance of the stages are as follows: Rotterdam-Bremen, 329.2 kms.; Bremen-Copenhagen, 376.8 kms.; Copenhagen-Gothenburg, 232.6 kms. For seaplanes the distances are: Rotterdam-Norderney, 273.9 kms.; Norderney-Copenhagen, 414 kms.; Copenhagen-Gothenburg, 232.6 kms.

Intermediate landings, other than those at compulsory halts, will be penalised with 25 negative marks, or "faults." If a competitor delays his start for more than a minute after the order has been given to start, he will be penalised by one "fault" for every 10 seconds delay. The winner of first prize will be the competitor who has been given the smallest number of negative marks, or "faults." The second in order will be awarded second prize, and so forth. The prizes are: First prize, a souvenir and 10,000 kronor (about £575); second prize, a souvenir and 5,000 kronor (about £290); third prize, a souvenir and 3,000 kronor (about £175). Souvenirs will be given to competitors obtaining fourth and fifth place. The competitor who, having completed the flight in accordance with the rules, is the first to cross the finishing line at Torslanda aerodrome will receive an extra prize of 4,000 kronor (about £230). Those taking part in this competition are also entitled to receive a premium in accordance with the rules for the "Premium Flying" previously referred to.

Competition for Commercial Aircraft

Total amounts of 23,000 kronor (about £1,300) have been set aside for this competition, which is for commercial machines flying regularly over the route Gothenburg-Copenhagen-Malmö and return every day in both directions for five days (August 7 to 11). Competitors must inform the committee of the approximate time taken by their machines to cover each of the stages, and on this basis a time-table will be worked out for each of the competitors, upon which will be based the calculation of the regularity of the service. The entrance fee is 50 kronor.

The organising committee will as far as possible take steps to provide the aeroplanes on the route with passengers, mails, newspapers, and other cargo at the best obtainable rates. Of the gross takings 75 per cent. will be paid to the competitors, and will be divided among them in proportion to the transport work performed by each.

The results of the competition will be judged on points, and the numerical order of their totals will be used as a basis for the distribution of the following prizes: First prize, souvenir and 15,000 kronor; second prize, souvenir and 5,000 kronor; third prize, souvenir and 3,000 kronor.

In order to qualify for a prize, any competing aeroplane shall have carried out at least six of the ten single journeys. The competitor who has achieved the best results will be awarded the following number of points: A, fuel economy, 200 points; B, regularity of traffic, 350 points; C, speed, 250 points; D, construction and special properties, 200 points. Other competitors will receive a number of points proportional to their evaluation figure under each heading. Only results obtained on the route Gothenburg-Copenhagen and back will be accepted as a basis for calculation of points under headings A and C. With the modifications described below all competitors will be adjudged in a single class.

The evaluation figure for fuel economy will be obtained from the following formulæ: For aeroplanes $\frac{Q \cdot V}{N}$ and for seaplanes $1.25 \frac{Q \cdot V}{N}$, where Q is the average useful weight carried on each journey, V is the average speed (in kilometres per hour) attained during the competition, N is the average horse-power employed during the competition, calculated according to the average fuel consumption per hour, assuming a consumption of 225 grammes per horse-power per hour (0.5 lb./h.p./hour).

The evaluation figure for regularity of traffic is more difficult to arrive at, but, briefly, use will be made of the following formula: $\frac{200 \times n}{a}$, where n is the number of competitors on any day of the competition, and a the number of competitors completing the double journey. For each day of the competition a valuation figure will be divided among the competitors, which will be equal to the number of competitors, n , multiplied by 200. If a number of competitors, a , complete the journey, each will obtain a valuation figure for the day equal to $\frac{200 \times n}{a}$.

For every journey completed according to time-table over the route Gothenburg-Copenhagen-Malmö or return the competitor will be awarded a valuation figure of 100. For each delay of one minute in starting this figure will be reduced by 2. For every landing not in accordance with the programme the figure will be reduced by 25.

The valuation figure for speed is obtained by taking the average speed of all journeys over the stage Gothenburg-Copenhagen.

In awarding a figure for construction and special properties, regard will be taken to the following points: (1) Personnel and space in proportion to useful load plus necessary load; (2) simplicity of construction; (3) solidity of construction; (4) motor installation, with special regard to accessibility and ease of changing the entire motor or parts thereof; (5) starting arrangements for the motor; (6) absence of fire risks; (7) silencer efficiency; (8) suitability of instrument board and steering arrangements; (9) comfort of passengers (embarking and disembarking, heating and ventilation arrangements, etc.) and cargo space; (10) field of vision of pilot and passengers; (11) special achievements. For each of points (2) to (10) inclusive a valuation figure of 0 to 10 will be given, and for points (1) and (11) the valuation figure will range between 0 and 40. The total of these valuation figures will be given for "construction and special properties."

Stores of petrol and oil will be established at Gothenburg and Copenhagen, the cost to be charged to competitors. An aeroplane intended to take part in this competition must have arrived at Gothenburg at latest by noon on August 5. During August 5 and 6 competing machines will be weighed, and a table of weights prepared, showing weight empty (but including cooling water and oil in engine), necessary load (*i.e.*, weight of crew, petrol and oil), and maximum useful or paying load.

Competition for Sporting Aeroplanes with Engines not exceeding 110 h.p.

This competition will take place between August 7 and 12, and the following prizes will be awarded, based upon totals of points obtained: First prize, 5,000 kronor (about £290); second prize, 3,000 kronor (about £175); third prize, 2,000 kronor (about £115). Under the following headings (A-E) the competitor who has scored the highest valuation figure will receive the following number of points: A, space required and ease of rigging, 200 points; B, fuel economy, 250 points; C, maximum speed, 150 points; D, speed range, 150 points; E, constructional suitability as sporting or touring aeroplane, 250 points.

Other competitors will be given a number of points proportional to their evaluation figure, which latter will be awarded on the following basis: A, valuation figure for space

required will be the total of the valuation figures arrived at from the formula: $U = \frac{5\sqrt{Q}}{a.b.\sqrt{h}}$, where Q is the load carried

(*i.e.*, total weight minus empty weight) on distance flying, and a and b represent the horizontal sides, measured in metres, of the parallelopiped in which the aeroplane, when packed for storage, may be inscribed, and h is the height of this parallelopiped. The valuation figure for ease of rigging will

be based upon the formula $P = \frac{0.1 \times \sqrt{Q}}{n} + \frac{10 \times \sqrt{Q}}{nt}$,

where Q is the load carried, as before, and n is the number of persons employed for rigging, and t the total time in seconds for rigging and dismantling the aeroplane before and after flying. If the rigging requires more than 30 man-minutes the aeroplane will be excluded. Machines must make a flight of at least 15 minutes' duration between the erecting and dismantling tests.

Valuation figure for fuel economy.—As a basis for this will be taken the results of one flight, without intermediate landing, of about 100 kms. The flight will be made up and down a straight-line course laid as nearly as possible in the direction of the wind, on a day when the force of the wind at a height of 10 metres above the ground does not exceed 5 metres per second. The load carried must not exceed a weight which will allow the machine to attain the minimum climb stipulated, *i.e.*, reaching a height of 500 metres in 7 minutes. The valuation figure will be obtained from the formula: For

land 'planes $\frac{Q \cdot V}{N}$ and for seaplanes $1.25 \frac{Q \cdot V}{N}$, where Q

equals total weight minus empty weight, V the mean speed in kilometres per hour, and N the number of h.p. employed during the flight, assuming a consumption of 225 grammes (0.5 lb.) per h.p. per hour.

The valuation figure for speed is the average speed attained as above.

The valuation figure for speed range will be obtained from the formula $\frac{V_{max}^2}{V_{min}^2}$, where V_{max} is the maximum speed in

kms. and V_{min} the minimum speed. If the value of V_{min} exceeds 90 kms./hour the machine will be disqualified. The figure for maximum speed will be ascertained from flights in both directions over a 1 km. course.

Valuation figure for construction, etc.—Regard will be taken to: (1) the possibility of using the machine as either land or seaplane, and to the ease of changing from one to the other; (2) simplicity of construction; (3) strength of construction; (4) motor installation; (5) starting arrangements for motor; (6) absence of fire risks; (7) silencer efficiency; (8) suitability of instrument-board and steering arrangements; (9) comfort of passengers and cargo space; (10) field of vision of pilot and passengers; (11) special achievements. For each of points (2) to (11) a valuation figure between 0 and 10 may be awarded, and for point (1) a figure of from 0 to 30. The total of the points (1) to (11) will be the valuation figure used under the heading E.

There will also be a competition for Director John Lithander's prize of 6,000 kronor, confined to Swedish military aviators, while if there is sufficient participation by foreign military aviators competitions will be arranged and prizes awarded for special all-round military performances.

Other Competitions

Competitions for military aviators will take place, and will include formation flying, relay races, and bomb-dropping competitions. An altitude competition open to all machines will be held, prizes being awarded to the aviators reaching the greatest altitude as indicated by the barograph. Another form of competition will be for the dropping of mail bags on parachutes from a height of 150 metres.

In addition to these various competitions it is intended to arrange mock fights, stunt flying, parachute descents, sky writing, balloon ascents, and squadron flying, so that visitors to Gothenburg should not be able to complain of having a dull time.



L'Escadrille.

UNDER this title a small group of French pilots have organised a miniature squadron with the intention of holding quite a series of meetings all over France. The members of L'Escadrille are Sadi Lecointe, Jean Casale, Lucien Bossoutrot, Haeglen, Fronval, and Robert Bajac. At the meetings in which they take part they will be under the command of their *président d'honneur*, René Fonck. Possibly L'Escadrille will be seen at Gothenburg.

U.S. Airship T.C.1 Destroyed By Fire

The large U.S. semi-rigid airship T.C.1, the first trials with which we reported last week, was destroyed on Wednesday, June 6. It had just completed a flight from Illinois to Dayton, and was moored to a steel mast when a severe electrical storm swung it against another steel mast. The ship instantly burst into flames, and two of the crew still on board jumped to the ground, sustaining slight injuries.

LIGHT 'PLANE AND GLIDER NOTES

Those wishing to get in touch with others interested in matters relating to gliding and the construction of gliders are invited to write to the Editor of **FLIGHT**, who will be pleased to publish such communications on this page, in order to bring together those who would like to co-operate, either in forming gliding clubs or in private collaboration.

REFERENCE has already been made to the excellent response with which the French light 'plane and glider competition at Vauville, near Cherbourg, has met. The entries list has now reached the very imposing number of 35 machines, some pure gliders and others light 'planes. Even now it seems likely that this number will be increased, the entries list being open at double fee until July 1. This double fee of 100 francs, like the ordinary fee of 50 francs, will be refunded if the competitor has his machine ready and present at the opening of the competition. It is to be regretted that up to the present not a single British machine has been entered, and it is to be hoped that, in view of the relative nearness of Cherbourg, and consequent low cost of transport, more than one British glider

In the way of pure gliders probably we have but very few which it would be any use to send, although Raynham's machine could probably be repaired at but small cost after his deliberate crash when doing his film stunt. Gordon England's machine has been repaired and taken over by officers in the R.A.F., who might, presumably, be permitted to take part. Merriam's monoplane has also been repaired, and is, we believe, in flying order.

As regards light 'planes, we should have three or four ready in time for the French competition. The Gnosselius has already passed its preliminary flying tests, and should certainly be seen at Vauville. By crossing between Dover and Calais and flying along the coast this machine should be able to fly to Vauville, thus reducing transport costs to a minimum. The "Wren" belongs to the Air Ministry, but might be allowed to take part in the experiments *hors concours*. The A.N.E.C. monoplanes should also be ready in time, and participation in the French competition should afford a good opportunity for trying-out the machines before the really serious work of competing for the Sutherland, *Daily Mail*, and Abdulla prizes in September. In the French competition there is no limit on engine capacity, the object of the light 'plane tests being to fly as far as possible on 500 c.c. of fuel. Thus a machine with a relatively large engine could be fitted with a large propeller, keeping down the engine revs. and retaining a good consumption.

In the accompanying tables we give, where available, particulars of dimensions, weight, etc., of the machines entered. We have divided these into two classes: pure gliders and light 'planes (although in the official lists they are given in the order entered, without reference to type), as in this way it is easier for reference purposes to find any particular machine. At a later date we hope to be able to give more detailed information about some of the more interesting machines.

THE competition for the *Grand Prix du "Petit Parisien,"* which is to take place on Sunday, July 15, at the Blériot aerodrome at Buc, has attracted, up to the present, no less than 17 machines entered. These are as follows: 1, Guillaume Busson; 2, Henri Levee; 3, H. and M. Farman; 4, H. and M. Farman; 5, Louis Breguet; 6, Carmier; 7, Hanriot; 8, 9, 10, Dewoitine; 11, Lachassagne; 12, Marais; 13, L. Peyret; 14, Rossier and Vaillant; 15, Fornier and Vaillant; 16, Desgrandschamps; 17, H. Collet.

It may be assumed that a large majority of these machines will be the same as those entered for Vauville. The competition for the *Petit Parisien* prize has for its object to cover the greatest possible distance (with a minimum of 300 kms.) on 20 kgs. of petrol (approximately 6½ gallons). It is of interest to note that the machine entered by Lachassagne is a pre-War type, fitted with a two-cylinder Darracq engine similar to those used on the very early Nieuport monoplanes. The machine has, however, been fitted with variable camber wings and tail plane.



The scene of the French Light 'Plane and Glider Competition, August 5-26: The cliffs at Vauville, near Cherbourg.

or light 'plane will compete with the French machines. The chief reason why at present no machine has been entered by this country probably is that there is very little time to get machines ready, and it will be difficult enough to get them ready for the British competition in September. Nevertheless, it should be possible for some of our machines to be ready in time, and it would seem to be worth while to enter any that have the remotest chance of being ready. The fee is not very high, even if forfeited, while the aggregate of the prizes offered by way of compensating competitors for their outlay amounts to 100,000 francs.

Table of Dimensions, etc., of Gliders entered for Vauville

No.	Entrant.	Type.	Length. ft. ins.	Span. ft. ins.	Area. sq. ft.	Weight empty. lbs.
2	J. Galland	M	18 4	44 7	202	275
3	L. Martin	M	—	—	—	—
5	H. Grandin	M	18 0	36 0	172	100
6	J. Pimoule	O	9 10	26 3	129	92
10	Th. André	M	22 0	40 0	226	200
12	P. Garrouste	M	14 9	24 7	172	88
15	E. Dewoitine	M	19 8	49 3	—	—
16	E. Dewoitine	M	19 8	49 3	—	—
17	E. Dewoitine	M	21 4	46 0	—	—
20	P. Bourieau	M	16 1	37 8	161	165
22	M. Rousset	M	—	—	164	121
23	L. Lefort	T	18 0	26 2	—	220
27	Th. Rillet	M	23 0	39 8	226	350
28	Leguay	S	—	32 10	161	132
29	P. O. Detable	M	18 0	16 5	269	—
30	P. O. Detable	M	18 0	16 5	269	—
31	Max Massy	B	11 6	23 0	215	66
33	L. Peyret	TM	17 3	21 7	157	154
35	A. Duchereux	M	16 5	39 8	194	200

M = Monoplane. B = Biplane. T = Triplane.
O = Ornithopter. S = Sesquiplan.
TM = Tandem Monoplane.

Table of Dimensions, Weight, etc., of Light 'Planes entered for Vauville

No.	Entrant.	Type.	Length. ft. ins.	Span. ft. ins.	Area. sq. ft.	H.P.	Weight empty. lbs.
1	E. Nessler	B	14 9	22 0	205	6	154
4	Ch. Marais	M	15 7	32 2	145	7	330
7	V. Simonet	M	21 8	36 9	215	10	340
8	L. Breguet	M	20 4	33 8	161	10	240
9	S.A.B.C.A.	M	16 5	44 0	215	10	375
11	R. Ferber	B	18 0	32 10	323	10	200
13	"Simplex"	M	14 9	29 6	215	8	365
14	"Simplex"	M	14 9	29 6	215	15	400
18	E. Dewoitine	M	18 5	44 7	—	—	—
19	E. Dewoitine	M	18 5	44 7	—	—	—
21	P. Hees	M	32 10	65 7	161	12	110*
24	Desgrandschamps	M	—	—	—	—	—
25	Quemin and Vaucamps	B	19 8	26 3	205	6	400
26	E. Pavin	M	13 2	26 3	141	10	205
32	L. Peyret	M	23 0	32 10	161	12	—
34	P. Bardin	M	23 0	38 0	226	12	400

M = Monoplane. B = Biplane. * Without engine.

THE MIGNET LIGHT 'PLANE

An Unorthodox French Machine

AN experimental light 'plane of unorthodox design has just been completed in France by an amateur designer and constructor, M. Henri Mignet, and is now at the Orly aerodrome awaiting its first flying tests. M. Mignet, who has built the machine himself, is a great admirer and student of bird flight, and he has come to the conclusion that the apparently very complicated movements of which birds are capable can be reduced to a few relatively simple principles, capable of being translated into structures of more or less usual form, and presenting no great engineering problems. His first light 'plane, which we are able to illustrate and describe this week by the courtesy of our excellent French contemporary *Les Ailes*, was designed and built with a view of imitating the bird in so far as the designer has been able to follow the problem. This applies to the manoeuvres of a bird in gliding flight

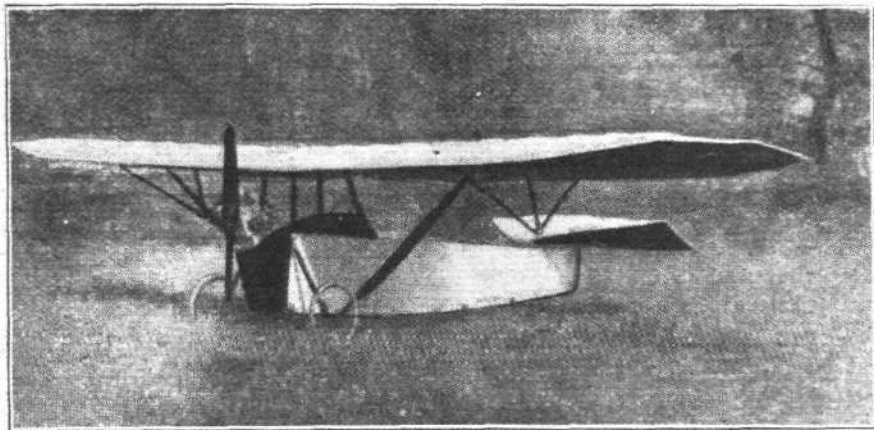
control stick is held central and moved fore and aft, the two ailerons are raised and lowered together, while lateral movement of the stick gives them a differential movement, exactly as in the Fairey patented system. Mr. Fairey has found, however, that it is necessary to use a tail plane of unusual section, and linked up to the controls in such a way as to alter its incidence in conjunction with the wing flaps. That is why we rather doubt the effectiveness of the rocking tail of the Mignet.

Constructionally the wing is of usual type, the centre supported on a cabane from the fuselage, and the wing braced by a single strut on each side. Hinges on the rear spar permit of folding the wings, and the large chord of the ailerons, coupled with the fact that these can move up or down together, enables the overall width when folded to be kept down to a very low figure. In large and heavy machines like the Fairey types, the flaps are, of course, connected up to a special gear for variation of camber. In the Mignet light 'plane this has not been considered necessary, and the flaps are connected to the joystick direct, the pilot working them with the stick both for lateral control and for variation in camber. In this manner it is thought that he will be better able to "feel" the machine.

The fuselage is of normal construction and rectangular section. The pilot's cockpit appears to be too far aft, even allowing for a lifting tail, and one would expect the machine to be tail heavy, especially in view of the small weight of the engine. The latter is a 10 h.p. Anzani cycle-car engine, with two horizontally opposed air-cooled cylinders. A two-bladed propeller is driven direct, and the petrol is contained in a tank in the centre of the wing, giving direct gravity feed.

The undercarriage consists of two wheels, placed, it would appear, rather too far forward, mounted on axles from the bottom of the fuselage and sprung by telescopic struts and springs to the top of the fuselage. A third wheel, partly housed in the fuselage, takes the place of the more usual tail skid.

The Mignet is purely an experiment to try out the designer's theories, and its trials will be watched with interest. Following



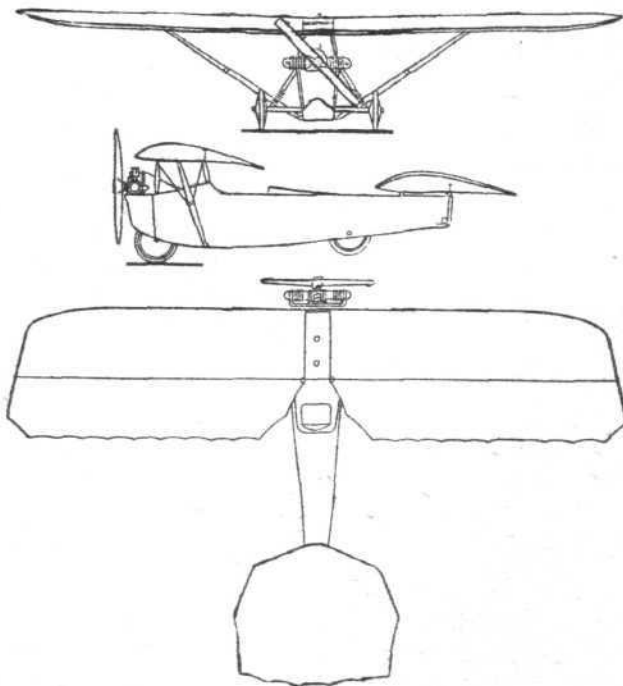
THE MIGNET LIGHT 'PLANE: Three-quarter front view.

only, and no attempt has been made to imitate the flapping wings.

Briefly, the main feature which M. Mignet has sought to incorporate in his design is the avoidance of what he considers to be the greatest danger of the ordinary aeroplane, *i.e.*, the *perte de vitesse*, or stalling. He considers that the safety of a bird is due to its capacity for flying in the stalled attitude, made possible by very effective controls. The keynote of the Mignet light 'plane is, therefore, controllability. While we agree with the designer in his estimate of the problem, we cannot say we feel convinced that he has attacked the solution in the right way.

From the accompanying illustrations it will be seen that the Mignet light 'plane is a parasol monoplane without vertical fin or rudder, but with very large ailerons and a tail showing a very pronounced dihedral. The most remarkable feature of the machine, apart from the absence of vertical tail surfaces, is that the entire tail, which is of lifting section, is not adjustable for incidence, although it can be rocked around a longitudinal axis. M. Mignet has come to the conclusion that a bird does not use its tail as an elevator, but merely as a rudder for steering in a horizontal plane. As the difficulties of imitating the warping tail of a bird were considerable, M. Mignet has attempted to obtain the same results by giving the tail a pronounced dihedral and hinging it around a longitudinal axis. The action of this type of tail (which, as already stated, is of lifting section) appears to be that for turning to the left the left-hand side of the tail is raised and the right-hand side depressed. The designer is of the opinion that this disposition of tail will prevent a machine from spinning, as, when tilted, the lifting tail is more effective than a rudder and fin. Practical experience alone can show whether or not M. Mignet is right. Personally we think that there is considerable doubt as to the value of such a tail, nor are we quite sure that, with the large ailerons working together as elevators, a tail elevator will not be required. At any rate, the experiment is certainly interesting, and we trust the first test flights may be carried out without accident. If the test pilot goes to work steadily and step by step, there should be no great danger, and certainly this particular use of a light 'plane, *i.e.*, for research purposes on a man-carrying scale and in free flight, is one of the most important to which it can be put, offering a method of convincing demonstration at relatively low cost.

The wing of the Mignet is of a modified Göttingen No. 426 section, and the ailerons form close on one-half of the entire wing surface. They are so interconnected that when the



THE HENRI MIGNET LIGHT 'PLANE: General arrangement drawings.

are the main characteristics of the machine: Length, o.a., 5 ms. (16 ft. 5 ins.); span, 6.5 ms. (21 ft. 4 ins.); area, 13.3 sq. ms. (143 sq. ft.); width with wings folded, 2 ms. (6 ft. 6 ins.); weight empty, 125 kgs. (275 lbs.); weight of pilot, 70 kgs. (154 lbs.); weight of fuel, 18 kgs. (40 lbs.); total loaded weight, 213 kgs. (469 lbs.); wing loading, 3.3 lbs./sq. ft.; Power loading, 47 lbs./h.p.

LONDON TERMINAL AERODROME

Monday evening, June 11, 1923

AFTER the temporary passenger slump of a week or so ago, the traffic has improved again, and is now almost all that can be desired. With the advent of fine weather, which appears to have arrived today, this should increase until the capacity of all the various air transport firms is taxed to the utmost. The Paris route, of course, maintains its popularity, but one of the most encouraging signs is the increase in passenger traffic to and from Berlin. The Daimler Airway have so many bookings that their through machines are always full some days in advance, while throughout the week the bookings to Germany by the machines which connect at Amsterdam with the German 'planes are universally good. I am told also that the enquiries for freight on this route are so great that if it were decided to carry freight (which, I understand, the Daimler Airway have no intention of doing) several more machines would be necessary to cope with this traffic.

A Day of Very Bad Flying Weather

On Saturday last the weather, for the first time for a considerable period, dislocated the cross-Channel services. In addition to a very bumpy wind, there was much mist and low clouds, and the Channel was almost impassable. The Manchester service was run to schedule, although one of the pilots flying declared that it was the worst trip he had ever made owing to the bumpy nature of the wind. On the cross-Channel routes the only machine to get through between London and Paris was a Goliath which left in the late afternoon. Mr. Robins, of the Instone Air Line, piloted a D.H.34, but after about 1½ hours' flying had to return, while another Instone 34 which, after flying from Cologne to Brussels left there for London, had to return to Brussels. Although no machines got through from London to Amsterdam, three 'planes came into London from Holland. The pilot of one of

these, a K.L.M. monoplane, experienced such bad weather over the Channel that he decided to land at Lympne, but owing to the mist, low clouds, and drizzle he was unable to find the aerodrome, and was forced to come on to Croydon in order to land. Two Daimler machines also came through from Holland, the pilots stating that they were so low over the Channel that they had to keep constant watch in order to avoid the masts of the ships sticking out through the mist. The Instone Air Line received in good time one of the Vickers "Vulcans," with a Rolls-Royce engine, back from Brooklands, and fitted it with a special wireless installation in the cabin. This was for "aerial Police" duty over the approaches to Epsom on Derby Day, and had on board officials from Scotland Yard, who watched the traffic from the air and reported congestion by wireless telephone to the central traffic control at the Grand Stand at Epsom. In order to avoid confusion, the wave-length used was 700 metres.

Major-General Sir W. S. Brancker, Director of Civil Aviation, will visit the Aerodrome on Tuesday in order to open officially the new Trust House tea-rooms and restaurant.

Fast Times Between London and Cologne

The prevailing westerly winds at the latter end of the past week have caused some fast trips between London and Cologne, and on Friday last one of the Instone 34's, with four passengers and approximately a quarter of a ton of goods and mail, covered the journey from London to Cologne in a non-stop flight of only 2 hours 50 mins.

The Air Union's early-morning newspaper machine to Paris, which has been run through the winter and spring from Lympne, now starts from Croydon, and continues to run with commendable regularity.

The first German 'plane to make the through journey from Berlin to London in a day arrived at the aerodrome on Monday evening, and returned to Germany on Tuesday morning.

PERSONALS

Married

Capt. FREDERICK WILLIAM HARTMAN, late R.E., attached R.N.A.S., only surviving son of Mr. and Mrs. Augustus Hartman, of 14, Kensington Square, was married on June 2, in London, to DOROTHY AILSA, only daughter of the late Mr. GEORGE HART DISCOMBE and Mrs. DISCOMBE, of 20, Edith Grove, Chelsea.

GEORGE ROBERT WRIGHT, of the Imperial Bank of Persia (late R.A.F.), eldest son of A. T. Wright, Esq., Bournemouth, was married on April 14, at H.B.M. Legation and American Church, Teheran, to MARJORIE, youngest daughter of ARTHUR CANE, Esq., Indo-European Telegraph Department.

To be Married

A marriage has been arranged, and will shortly take place, between Maj. GERALD GRAHAM ADELEY, 1st R.U. Rifles and R.A.F., younger son of Mr. and Mrs. Adeley, Ben Eadan, Belfast, and EILEEN NORAH, only daughter of Dr. and Mrs. WILFRID S. FOX, 63, Grosvenor Street, W.

The marriage of EGERTON MITFORD BETTINGTON, Squadron Leader R.A.F. (retired), son of Col. and Mrs. Bettington, of Johannesburg, and of Beverley, East Yorks, and CICELY, youngest daughter of the Rev. EDWARD MITFORD, lately vicar of Hunmanby, East Yorks, and of Mrs. MITFORD, will be solemnised in Holy Trinity Church, Folkestone, on June 16.

The engagement is announced between Flying Officer THROWER HERRING, R.A.F., late R.N., only son of Mr. and Mrs. A. H. Herring, of Petra, Weston-super-Mare, and GLADYS, PRETORIA HIND, younger daughter of Mrs. Robert Hind, of Woodcliffe, Weston-super-Mare.

Death

Major ALAN WORTLEY BARRINGTON FOOTE, late 11th Hussars and R.A.F., who died on May 27, at Thorpe Lee House, Egham, after a long illness, aged 38, was the eldest son of the late Col. Barrington Foote and of Mrs. Barrington Foote, Purton, Wilts.

An Enterprising Venture

MESSRS. W. AND T. AVERY, LTD., the old-established firm of weighing-machine makers, are to be congratulated on their enterprise and their appreciation of the utility of air travel, in connection with the following project they have arranged. The management desiring a business conference in Paris, and it being difficult to arrange a suitable time without undue interference with normal routine, conceived the happy thought of combining business with pleasure, and arranged to go to Paris by air on Saturday, the 23rd inst., returning by the same route the following day. As several members of the firm expressed a desire to take friends with them on this trip, two Handley Page machines have been chartered specially for the occasion. A start will be made from Croydon at 9 a.m. on the Saturday, and the return journey made from Le Bourget at 4 p.m. on the Sunday. The two "H.P.'s" will each be equipped with seating accommodation for 14 passengers. In arranging for this trip, Messrs. Avery tell us they do not alone seek personal convenience, but hope to stimulate a desire on the part of other firms to use British airways, and thus help to increase the prestige of civil aviation in this country. This is certainly the right spirit—so other firms please note!

Air Mail Changes

THE Postmaster-General announces that from Thursday, May 24 last, the latest times of handing in letters at the special post offices in London for the midday Air Mail to Paris will be,

in most cases, ten minutes earlier than at present. The new times will be as follows.—General Post Office, 11.0 a.m.; Threadneedle Street and Lombard Street, 10.45 a.m.; South-Western District Office, 10.25 a.m.; Church Place, Piccadilly, 10.20 a.m.; Parliament Street, 10.30 a.m.; Western District Office, 10.15 a.m.; Charing Cross, 10.35 a.m.; Western Central District Office, 10.40 a.m.; registered letters five minutes earlier in each case. The Air Mail for Brussels and the second Air Mails for Rotterdam, Amsterdam and Cologne will be dispatched from London each week-day at the same time as the midday Air Mail for Paris, and the latest times of posting will be the same for all these Mails. The first Air Mails for Rotterdam, Amsterdam and Cologne normally give delivery in those places the same afternoon. The Air Mails for Paris and Brussels, and the second Air Mails for Rotterdam, Amsterdam and Cologne will normally give delivery the same evening, provided that in the case of any letter for a civilian address in Cologne an express delivery fee is prepaid, in addition to the Air Mail fee. The second Air Mail to Amsterdam should benefit letters posted in London the same morning for places in North or Central Germany. The latest times of posting for the Air Mails can be ascertained from any Head Post Office. A new edition of the Air Mail leaflet, giving full particulars of the revised summer services, will be issued as soon as possible. In the meantime, information regarding them can be obtained on application to the Secretary, Air Mails, General Post Office, London, E.C. 1.

THE ROYAL AIR FORCE

London Gazette, June 5, 1923

General Duties Branch

The following Flight Cadets are granted permanent commissions of Pilot Officers on successfully passing through R.A.F. (Cadet) College, with effect from and with seniority of dates indicated:—E. C. Keey; April 27. R. G. A. Vallance; May 7. J. U. McKinnon is granted a short service commn. as a Flying Officer with effect from, and with seny. of, May 22.

the following promotions are made:—

Flying Officer to be Hon. Flight-Lieut.—C. M. E. Gifford; Feb. 15.
Pilot Officers to be Flying Officers.—S. R. Boldero; Dec. 12, 1922. R. G. R. Godby; March 29. S. F. Coles; April 4. C. E. B. Winch; May 7. R. H. Windsor; May 29. H. A. Bayne; May 29. A. E. Golds; May 29. N. M. Ffrench; May 29. C. McL. Reid; June 1. M. V. Ward; June 1. J. F. Bythell; June 2. H. W. Beck; June 8.

Flight-Lieut. G. T. Richardson to take rank and precedence as if his appointment as Flight-Lieut. bore date June 30, 1922, immediately following the name of Flight-Lieut. W. R. Curtis. Reduction to take effect from May 11. Flight-Lieut. W. P. Groves is placed on half-pay, Scale B; June 1.

The following Observer Officers are transferred to the Reserve, Class B: F. W. Brown; June 2. J. Mitchell; June 5. Flying Officer G. A. Pennington resigns his permanent commn.; June 1. The following Flying Officers relinquish their temporary commissions on return to Army duty:—R. H. Miles (Lieut., Q.O. Royal West Kent R.); May 29. W. R. F. Clover, M.C. (Lieut., R.G.A.); May 30.

Stores Branch

I. L. Wincer is granted permanent commn. as Flight-Lieut. for accountant duties; July 4, 1921. *Gazette*, July 19, 1921, appointing him to a short service commission, is cancelled.

ROYAL AIR FORCE INTELLIGENCE

General Duties Branch

Group Captain: R. Gordon, C.B., C.M.G., D.S.O., to R.A.F. Depot. 5.5.23, on transfer to Home Establishment pending disposal.

Wing Commanders: J. T. Cull, D.S.O. to R.A.F. Base, Gosport. 1.5.23; to command R.A.F. Unit in H.M.S. "Hermes" (on commissioning). W. L. Welsh, D.S.C., A.F.C. to R.A.F. Base, Gosport. 1.5.23; to command R.A.F. Unit in H.M.S. "Eagle" (on commissioning). W. F. MacNeece, C.B.E., D.S.O., D.F.C. to R.A.F. Depot (Non-effective Pool). 29.4.23; on transfer to Home Establishment.

Squadron Leaders: B. L. Huskisson, D.S.C., to R.A.F. Base, Leuchars. 11.6.23. R. S. Maxwell, M.C., D.F.C., to R.A.F. Depot. 1.6.23; pending disposal. R. Graham, D.S.O., D.S.C., D.F.C., to Air Ministry. 1.6.23.

Flight Lieutenants: R. B. Munday, D.S.C., to R.A.F. Base, Gosport (No. 422 Flight). 29.4.23. D. K. Cameron, to R.A.F. Base, Gosport. 1.5.23, for duty in H.M.S. "Eagle" (on commissioning). J. W. B. Grigson, D.S.O., D.F.C., to R.A.F. Base, Gosport (No. 420 Flight). 16.4.23. W. P. Groves to R.A.F. Depot. 18.5.23; pending disposal. W. P. Groves to Half Pay List. 1.6.23. J. S. Browne, A.F.C., to R.A.F. Depot. 18.5.23 (Non-effective Pool) on transfer to Home Establishment. W. R. Curtis to R.A.F. Depot (Non-effective Pool). 21.5.23; on transfer to Home Establishment.

Flying Officers: E. W. Logsdail, to R.A.F. Base, Leuchars. 5.5.23.

S. H. Reynolds, to R.A.F. Base, Gosport. 1.5.23; for duty in H.M.S. "Hermes" (on commissioning). W. H. Jinman, to R.A.F. Base, Gosport. 1.5.23; for duty in H.M.S. "Hermes" (on commissioning). H. Stafford to R.A.F. Depot. 1.6.23; for duty at Chemical Warfare Experimental Station, Porton. R. C. Wansbrough to R.A.F. Depot. 15.4.23 (Non-effective Pool) on transfer to Home Establishment. J. U. McKinnon to R.A.F. Depot. 22.5.23; on appointment to a Short Service Commission. E. F. Haylock to No. 1 Sqn, Iraq. 27.4.23. G. L. Carter to Armament and Gunnery School, Eastchurch. 1.6.23. H. S. Hobby, M.C., to No. 4 Flying Training School, Egypt. 8.5.23; on secondment from the Army instead of to No. 216 Sqn, Egypt, as previously notified. W. V. Simons to No. 267 Sqn, Malta. 2.5.23. A. J. Rankin to H.M.S. "Pegasus". 2.5.23. W. E. Townsend to R.A.F. Depot. 18.5.23; on transfer to Home Establishment pending transfer to the Reserve. T. C. Tyers to R.A.F. Depot (Non-effective Pool). 29.4.23; on transfer to Home Establishment. C. E. F. Arthur to R.A.F. Depot (Non-effective Pool). 15.4.23; on transfer to Home Establishment. E. C. B. Wright and A. J. Rankin; both to R.A.F. Depot (Non-effective Pool). 21.5.23; on transfer to Home Establishment. R. V. Weeks and J. S. Nichol; both to R.A.F. Depot. 18.5.23; pending disposal on transfer to Home Establishment.

Pilot Officers: J. B. Wilson to R.A.F. Base, Leuchars (No. 401 Flight). 1.6.23. E. B. Forster to Central Flying School, Upavon. 1.6.23.

IN PARLIAMENT

France and Czechoslovakia Arbitration Convention

LIEUT.-COMMANDER KENWORTHY on May 31 asked the Secretary of State for Air whether he has yet seen the terms of the Aviation Convention between the French and Czechoslovakia Governments, under which the market is reserved for French aeroplane manufacturers; and what steps are being taken to preserve the rights of British aeroplane manufacturers in that market?

Lieut.-Colonel Sir Samuel Hoare: The terms of the Convention have not yet been made public, but I am assured that they do not impair the interests of Great Britain or other countries in regard to the construction of aeroplanes, nor restrict the right of the Czechoslovakian Government to select types of aircraft from different countries. I am also assured that the Convention leaves to the Czechoslovakian authorities a free hand to negotiate with British or other companies in regard to the establishment of aerial routes. These assurances are satisfactory as far as they go, but I am continuing to make representations with a view to securing a statement of a more comprehensive character from the Czechoslovakian Government.

Lieut.-Commander Kenworthy: Is the right hon. Baronet considering the question of having more air attachés in Europe to watch cases of this sort?

Sir S. Hoare: Yes, I am considering that point at present.

Helicopter System

LIEUT.-COMMANDER KENWORTHY asked the Secretary of State for Air whether any further progress has been made with the helicopter system of flying; and whether the experiments are continuing?

Sir S. Hoare: Satisfactory progress has been made with the Air Ministry experiments, and indoor trials of the machine have been and are being carried out.

Viscount Curzon: Has this helicopter yet managed to get up from the ground?

Sir S. Hoare: The question to the noble Lord's question is in the affirmative.

Air Transport

SIR J. LEIGH asked the Secretary of State for Air what is the total number of flights made by aircraft belonging to the Government during the past 12 months; how many miles have been flown by these machines; and how many accidents have occurred during the same period; and if he is able to state from the figures if flying compares favourably from the point of view of safety with other forms of travel?

Dunkerque Officers' Dinner

The Fifth Annual Dinner for officers who served in the Dunkerque Command of the Royal Naval Air Service and the Royal Air Force from 1914 to the Armistice will be held at the Royal Air Force Club on Wednesday, June 27, 1923, at 7.30 p.m. for 8 p.m.

The chair will be taken by Air Commodore F. C. Halahan.

The tickets are £1 each, which sum should be forwarded with the application. Those who wish to be present should apply not later than June 24 to Treasurer, Dunkerque Dinner, Royal Air Force Club, Piccadilly, W. 1.

Princess Mary's Royal Air Force Nursing Service

THE Air Ministry announces that Her Royal Highness Princess Mary, Viscountess Lascelles, has been graciously pleased to become Patroness of the Royal Air Force Nursing Service, and to give her permission for it to be re-named "Princess Mary's Royal Air Force Nursing Service."

Sir S. Hoare: I assume that the figures which my hon. friend desires are those for the civil air transport lines subsidised by the Government. On this assumption, these are for the year ended 31st March last; number of flights 4,000; miles flown, 778,000; passengers carried, 11,460; passengers injured, one (none was killed). As regards the last part of the question, I am unable to give comparable statistics for other forms of travel, but I think it will be clear from the above that the percentage of accidents (and that non-fatal), namely, less than .009 per cent. of passengers carried, shows that air transport is not unduly dangerous.

Oil Engines for Aircraft

MR. PENNY on June 4 asked the Secretary of State for Air whether he is aware of the application in France of oil engines to aircraft, with the object of securing greater safety in the air; and whether any experiments of the kind have been or are being made in this country?

The Secretary of State for Air (Lieut.-Col. Sir Samuel Hoare): I am aware that the use of oil engines in aircraft has been considered in France, but according to my information, no actual trials have been made. In this country, test-bench experiments of aircraft engines using heavy oil have been proceeding with promising results for some time past, and are still being continued.

Sir H. Brittain: Is it not a fact that we hold a wonderful record, from the point of view of safety in the air, second to no other country?

Sir S. Hoare: I believe that is the case.

Air Arm of French and British Fleets

VISCOUNT CURZON on June 6 asked the First Lord of the Admiralty whether his attention has been drawn to the Bill proposed by the French Minister of Marine to provide for some 60 naval air squadrons for the French naval air fleet; whether this Bill, if carried into effect, will affect the relative standard of strength of the air arm of the French and British Fleets; and, if so, to what extent?

Mr. Amery: I understand that the new French naval air squadrons will consist chiefly of aircraft employed on local and coast defence, and as such cannot be compared with the British naval air units, which are part of the Fleet.

Viscount Curzon: Is it a fact that one whole division of 12 squadrons is to be attached to the French Navy?

Mr. Amery: I would like separate notice of that question.

Capt. Malins at "2 LO"

"Good evening, everybody. I want to tell you about the yacht *Frontiersman* going round the world." Thousands of "listeners-in" heard this brief introduction by Capt. Malins last week when he sent out from the London broadcasting station a brief account of the plans for his and Capt. Macmillan's flight around the world. Capt. Malins explained that the *Frontiersman* had been fitted out to carry supplies to and establish dumps at numerous points across the North Pacific. From Southern Alaska the yacht will place dumps, carefully camouflaged, on islands approximately 200 miles apart. As the machine will have a considerably greater range than that, it is thought that this difficult section of the route can be made reasonably safe. Comdr. Spalding, R.N., will be skipper of the yacht, and Capt. Roger Pocock, founder of the Legion of Frontiersmen, will be in charge of the sea expedition.

The Michelin Cup

THE present holder of the Michelin Cup, Commandant Vuillemin, who last year completed the circuit of France, in 15 stages, in 28 hrs. 45 mins., has attempted to improve his previous time and to become holder of the Cup for another year. His first attempt was made on May 11, when, after having covered a distance of 2,210 kms. (1,370 miles) at an average speed of 155 kms. (96 m.p.h.), he was obliged to abandon the attempt at Metz owing to bad weather. On June 5 Commandant Vuillemin started on a second attempt, and covered 14 stages in good time. Leaving St. Inglevert at 9.12 p.m., he should have reached Paris in a little more than one hour, which would have brought down his total time for the circuit to about 19 hours, as against the 28 hrs. 45 mins. of last year's performance. However, he ran into bad storms, and had to land at Crotoy, where he was obliged to stay for the night, not reaching Villacoublay until 6 the next morning. This delay brought his total time for the circuit up to 27 hrs. 13 mins. The machine used was a Breguet XVII C2 with 450 h.p. Renault engine. Competitors may attempt to beat Vuillemin's performance up to June 30.

The "Solex" Prize.

THE "Solex" carburettor firm has offered a prize of 50,000 francs to the first French pilot who, on a French machine, makes the flight from Paris to Rouen on a combined fuel and oil consumption of not more than one kg. (2.2 lbs.).

The Instone Air Line

SPEAKING at the annual general meeting of the Instone Air Line, Ltd., at 52, Leadenhall Street, E.C., on the 5th inst., Sir Samuel Instone, chairman of the Company, reported that considerable progress had been made during the past twelve months. The company had in its service four modern machines, with a reserve fleet of four aeroplanes. The number of flights made during the year was 1,062. The number of miles flown had been 261,970, and the number of passengers carried 8,244. The amount of fares earned, excluding subsidy, was £21,683 3s. 1d., and the amount of subsidy earned, excluding compensation, £38,789 12s. 9d. They were maintaining 100 per cent. efficiency—during May 96 flights were attempted and completed—and had had an extraordinary immunity from accidents. This immunity from accidents is attributed solely to the great care exercised by all those connected with the running of the service. Their policy was to take no risks where the public is concerned—a principle of safety first that has in no way interfered with the very high efficiency of the working conditions. The cost of running per mile had been brought down, and if only a continuity of tenure is guaranteed to the company, many further economies and improvements could be made, which cannot be attempted while the present air companies are threatened with extinction by the Government at the end of the present agreement—in March, 1924.

Referring further to the proposed "one million" company, Sir Samuel Instone said:—

"Every effort has been made by your directors to find a common ground for working with their contemporaries, but rather than be associated with any enterprise, based on some of the lines that have been suggested to them, it is the considered opinion of your directors that they would rather retire from the air business altogether. Your directors accordingly felt that they could no longer carry on negotiations, and decided, with the assistance of their experts, to formulate a scheme to place before the Air Ministry, based upon such lines, that we feel quite certain, and can go as far as to make a definite statement, that, if your directors' proposals are accepted, the capital required for the national company will be forthcoming.

"I think I may say that in any event the assets of your company will be taken over by the new national company, at a price to be agreed. I look upon civil aviation as the natural ally of the Royal Air Force, as it must be to the National Air Force in the future what the mercantile marine is and has been to the Navy.

"It must not be forgotten that the whole Continent is alive with civil aviation, but it is nothing to what is in preparation, and this country must not be behind at any cost. It costs about £5,000,000 to build a modern battleship; compare this with the £1,000,000 it is proposed to spend over ten years on a service which may one day mean all-in-all to this country."

The H. G. Hawker Engineering Co., Ltd.

IN a short article dealing with the H. G. Hawker Engineering Co., Ltd., published in our issue of May 24, it was erroneously made to appear that Mr. Sopwith is a director of this company. It should be pointed out that Mr. Sopwith's aviation interests are entirely centred in this company, and that he is joint managing director with Mr. Sigrist.

SOCIETY OF MODEL AERONAUTICAL ENGINEERS (London Aero Models Association)

At the Council Meeting on June 6 it was decided that silver medals should accompany the cups in the S.M.A.E. competitions, with bronze medal for second prize and diploma for third.

On Friday next, June 15, Mr. Levy will open a discussion on the design of his model. Members are requested to make more serious attempts to get to the meetings at Headquarters on Fridays.

By the time this goes to press our Competition Secretary will have arrived in Holland. He is travelling on the air mail, K.L.M. service, on Thursday morning.

Attempts on records will be made as follows:—

June 23, 2.30 p.m.—Wimbledon Common. General records.

June 24, 11.0 a.m.—Parliament Hill. Glider records.

A. E. JONES, Hon. Sec.

PUBLICATIONS RECEIVED

Book of the Ford: How Ford Owners can get the Best out of Their Cars. By R. T. Nicholson, M.A. London: Temple Press, Ltd. Price 2s. 6d. net.

Department of Commerce. Circular of the Bureau of Standards. No. 137. Auxiliary Condensers and Loading Coil used with Simple Home-made Radio Receiving Outfits. February 23, 1923. Government Printing Office, Washington, D.C., U.S.A.

By Air to Everywhere. LepAerial Bureau, 27, Piccadilly, London, W. 1.

The Aircraft Year Book, 1923. Compiled by C. E. Lee. Edited by C. G. Grey. London: Sampson Low, Marston and Co., Ltd. Price 6s. net.

Income Tax and Super-Tax, 1842-1924. Tabular View 1923. Oliver and Boyd, 33, Paternoster Row, E.C.

NEW COMPANY REGISTERED

BRITISH AERIAL ENGINEERING MANUFACTURERS, LTD., 25 and 26, Lime Street, E.C. 3.—Capital £1,000, in £1 shares. Acquiring the patents now held by G. R. Steward. First directors: G. R. Steward and Mrs. L. Steward.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: cyl = cylinder; I.C. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1922

Published June 14, 1923

9,284. H. W. McKenna. Devices for landing goods or articles from aircraft. (197,803.)

APPLIED FOR IN 1923

Published June 14, 1923

2,659. Soc. ANON. DES AEROPLANES G. VOISIN. Hydraulic brakes. (193,021.)

If you require anything pertaining to aviation, study "FLIGHT's" Buyers' Guide and Trade Directory, which appears in our advertisement pages each week (see page xvi).

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